REMARKS

In view of the above-amendments and the following remarks, reconsideration and further examination are requested.

By this amendment, claims 28-36 have been canceled in favor of new claims 37-51. Therefore, claims 1-36 are canceled and claims 37-51 are pending.

Claims 28-36 were rejected under 35 USC 102(b) as being anticipated by Hinoshita. This rejection is traversed and is inapplicable to new claims 37-51.

First, please note that independent claims 28, 29, 30, 34, 35, and 36 have been canceled in favor of independent claims 37, 39, 41, 46, 48, and 50, which include the additional limitation that the filter is a digital filter. Also, dependent claims 38, 40, 42, 47, 49, and 51 have been added to recite that the digital filter is an FIR filter. Support for the claim amendments can be found at least at Fig. 174 and column 59 line 49 to column 60, line 23.

Hinoshita discloses an analog band filter 34 and an analog roll-off filter 54. In order to provide a roll-off characteristic and a VSB characteristic with the analog filters, it is necessary that the roll-off characteristic be implemented by one filter, and the VSB characteristic be implemented by another filter. It is not possible that both characteristics be present in a single filter because the roll-off characteristic must come before a modulator and the VSB characteristic must come after the modulator. Fig. 4 of Hinoshita shows the modulation system, and Fig. 7 shows a base-band system, which, according to Hinoshita, can be modified to include elements of the modulation system. Thus, if such a modification were done, the following system of elements from Figs. 4 and 7 would result:

Multi-level Converter 50----Roll-off Filter 54-----Modulator 30-----Mixer 32-----Band filter 34

The reason why it is necessary that the roll-off filter come before the modulator and the band pass (VSB) filter come after modulator is as follows.

As shown in Fig. 8, the roll-off filter 54 of Hinoshita filters the signal of Fig. 8A to get a base-band signal shown in Fig. 8C. Hinoshita discloses that for a multilevel signal of Fig. 8A, transmission without inter-symbol interference according to Nyquist's theorem is achieved by

rolling-off the spectrum at a frequency one-half the frequency of the symbol rate. The rolled-off signal of Fig. 8A is a base-band signal for a multi-level signal, and is a specific embodiment of the generic baseband signal shown in Fig. 5A of the modulation system of Fig. 4. As shown in Fig. 5, it is necessary to use a modulator 30 to modulate the base-band signal 5A with the carrier 5C to get the signal spectrum around the carrier frequency. Then, the band filter 34 is used to filter the signal at the carrier frequency as shown in Fig. 5D. If the multi-level base-band system of Fig. 7 is modified to include elements of the modulation system of Fig. 4, the roll-off filter 54 cannot be placed after the modulator 30 because after the modulation, the roll-off filter would not serve its function of avoiding inter-symbol interference (Fig. 8). Conversely, the band pass filter cannot be placed before the modulator 30 because such a placement would not allow the filtering at the carrier frequency. Therefore, it is not possible to combine the systems of Figs. 4 and 7 of Hinoshita in such a way to include "a filter having a VSB characteristic and a roll-off characteristic" as recited in each of independent claims 37, 39, 41, 46, 48, and 50 of the present application.

Moreover, as discussed above, the filters of Hinoshita are analog filters, whereas the filter recited in the independent claims of the present application is a digital filter. Accordingly, Hinoshita does not disclose a digital filter having a VSB characteristic, which covers a frequency band including a carrier frequency, and a roll-off characteristic, as recited in claims 37, 39, 41, 46, 48, and 50 of the present application.

Because of the distinctions discussed above, claims 37-51 are clearly not anticipated by Hinoshita. Therefore, it is submitted that the present application is in condition for allowance.

The Examiner is invited to contact the undersigned attorney by telephone to resolve any remaining issues.

Respectfully submitted,

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